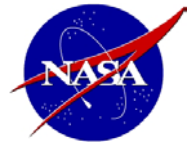


# SPACE SCIENCE



## **Space Science Workshop Description**

This workshop provides an integrated view of space science mission design and operations; from conceptual design and requirements definition, through spacecraft design, development, and test, to development of mission operations concepts and ground infrastructure capabilities.

In this workshop, participants take a fresh look at space mission design by examining a process-oriented approach for creating cost-effective space missions. Participants apply a methodology for translating space mission objectives, requirements, and designs into viable and economical operations concepts. Discussions on spacecraft design demonstrate practical, detailed ideas and tools to analyze and design space segment support for unmanned missions, including architecture and configuration, payloads, and vehicle subsystems.

Workshop presentations on mission operations describe functions that must be performed, define and evaluate key issues, and assess the complexity and cost of operations to help you develop an appropriate operations concept. Special emphasis is placed on describing the interrelationships and tradeoffs between system design and mission operations that must occur during the early stages of planning to deliver cost-effective results.

## **Who Should Attend**

This course is designed for a variety of space professionals who must interact with one another to produce cost-effective space missions, including managers of all types, spacecraft engineers, designers, analysts, operators, and users of space systems. Systems engineers and project managers who must create overall mission architectures and are responsible for the detailed design and operation of space systems will find it particularly applicable to their day-to-day activities.

## **Workshop Topics**

- Space Science Enterprise
- Overview of Cost Reduction Techniques
- Mission Concepts and Space Mission Architectures
- Requirements and Conceptual Design
- Additional Cost Reduction Techniques
- Orbit Analysis, Design and Selection
- Space Environment and Its Impact on Mission and Spacecraft Design
- Space Payload Definition
- Spacecraft Bus Design and Sizing
- Mission Operations & Ground Infrastructure
- Launch Vehicle Selection
- Life-Cycle Cost Modeling
- Complete End-to-End Design Example for a Remote Sensing Mission

## **Workshop Materials**

Each participant will receive a copy of one of the three course reference texts listed below and a complete set of course notes.

*Space Mission Analysis and Design*—co-authored and edited by Larson and Wertz and published by Kluwer, 1992, 1995, 1999;

*Cost-Effective Space Mission Operations*—co-authored and edited by Boden and Larson and published by McGraw-Hill, 1996.

*Reducing Space Mission Cost*—co-authored and edited by Wertz and Larson and published by Kluwer, 1996.

## **Class Name:**

SS 17

## **Location:**

NASA Headquarters

Program is Non-Residential (HQ will cover tuition only)

## **Date:**

March 22 - 26, 2004

## **How to Apply:**

Download the [Nomination Form](#) and Contact your Center Training Point Of Contact for your Center's registration procedures.

## **Workshop Presenters and Facilitators:**

Dr. Wiley Larson, Dr. Bob Giffen, and Dr. Dave Cloud

This is a ***hands-on workshop*** that focuses on helping you apply the information and processes presented once you return to your job.

For more information call or e-mail Julie D. Wiater at RGI, Inc:

703-820-4900 ext. 115

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